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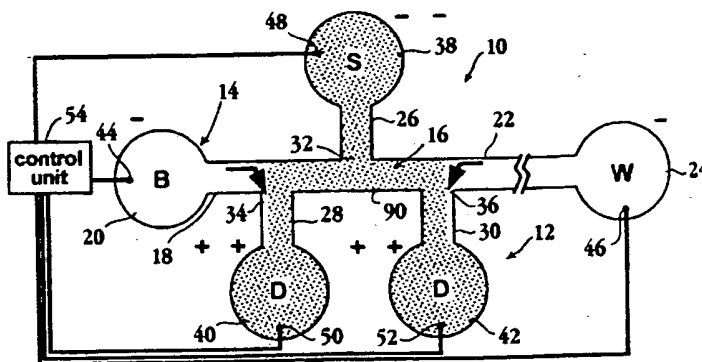
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(54) Title: MICROFLUIDIC DEVICE WITH SAMPLE INJECTOR AND METHOD OF USE



(57) Abstract: A method and device for injecting a liquid sample into an electrolyte channel in a microfluidics device is disclosed. The device has a channel network that includes an electrolyte channel having upstream and downstream channel portions and first, second, and third side channels that intersect the electrolyte channel between the two channel portions at first, second, and third ports, respectively. In the method, a sample is moved electrokinetically into the electrolyte channel, to form a defined sample volume therein. By simultaneously controlling the voltage applied to the three side channels, and at least one of the upstream and downstream channel end portions, the sample volume element can be shaped to have a desired leading- and trailing-edge shape and/or distribution of sample components within the volume elements.



*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

# INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 01/04412

## A. CLASSIFICATION OF SUBJECT MATTER

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According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 G01N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 98 49548 A (BOUSSE LUC ;DUBROW ROBERT S (US); KENNEDY COLIN B (US); CALIPER TE) 5 November 1998 (1998-11-05)	1-5, 13, 14
Y	the whole document	6, 8, 10-12, 16-19
Y	US 5 869 004 A (KOPF-SILL ANNE R ET AL) 9 February 1999 (1999-02-09) column 3, line 3 - line 17; figures	10-12, 18, 19
Y	PIER GIORGIO RIGHETTI (ED): "Capillary electrophoresis in analytical biotechnology" 1996, CRC PRESS, NEW YORK XP008002033 cited in the application page 84 -page 87	6, 8, 16, 17
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☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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- \*S\* document member of the same patent family

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